

WHAT IS CLAIMED IS:

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1. An apparatus for upgrading the program stored in a firmware board comprising:
a host computer for converting an execution file prepared by an operator into a file for a production;
5 a flash memory disposed in the firmware board for storing a production-processing program; and,
a personal computer (PC) for receiving the production file downloaded from the host computer and for storing the downloaded file in a corresponding region of the flash memory.
2. The apparatus as claimed in Claim 1, further comprising an RS232C line for
10 connecting the PC to the firmware board.
3. The apparatus as claimed in Claim 1, wherein the host computer, prior to the creation of the file for production, attaches information relating to a storage address of the flash memory, a compression state, and a booting state for the production file.
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4. The apparatus as claimed in Claim 1, wherein the PC transmits the production file to
15 the flash memory when a transmission command is inputted thereto.
5. The apparatus as claimed in Claim 1, wherein the PC stores the production file in the flash memory using the production-process program in the flash memory.

6. The apparatus as claimed in Claim 5, further comprising a DRAM for storing a copy of the production-process program from the flash memory when upgrading the production-processing program so that the upgrading can be performed in the DRAM.

7. The apparatus as claimed in Claim 6, wherein the upgraded production-process program in the DRAM is transferred back to the flash memory.

8. An apparatus for upgrading the operation system firmware of a personal computer system by downloading an updated firmware to acquire new capabilities, comprising:

a host computer for converting an execution file prepared by an operator into said updated firmware;

at least one personal computer coupled to said host computer for receiving said new firmware downloaded from said host computer;

a firmware board having:

a communication interface means connected for communicating with said personal computer and for transferring data between said personal computer and said firmware board;

a first memory means coupled to said communication means for storing a boot program, operating codes, and said operating system firmware; and,

wherein said personal computer further operable for storing said updated firmware downloaded from said host computer in a corresponding region of said first memory means.

9. The apparatus as claimed in Claim 8, further comprising a second memory means coupled to said first memory means for storing a copy of information stored in said first memory means to be replaced with said updated firmware.

Sub 10. The apparatus as claimed in Claim 9, wherein said replaced updated firmware in said second means is transferred back to the corresponding region of said first memory means.

11. The apparatus as claimed in Claim 10, wherein said second memory means comprises a Dynamic Random Access Memory (DRAM) or a Static Random Access Memory (SRAM).

12. The apparatus as claimed in Claim 8, wherein said first memory means comprises a flash memory, and wherein said communication means comprises an RS232C line.

13. The apparatus as claimed in Claim 8, wherein said host computer further operable for attaching a storage address information of said first memory means to said updated firmware.

14. A method for upgrading the program of a firmware board comprising the steps of:
providing a flash memory in the firmware board for storing a production-processing
5 program;

creating, by a host computer, a file for a production by converting an execution file prepared in advance into the file for production;

receiving the production file, by a personal computer (PC), downloaded from the host computer; and,

5 storing the production file in the corresponding region of the flash memory.

15. The method as claimed in Claim 14, wherein the production file includes a header portion containing information relating to a storage address of the flash memory, a compression state, and a booting state for the production file.

16. The method as claimed in Claim 14, wherein the PC transmits the file for production to the flash memory when a transmission command is inputted thereto.

17. The method as claimed in Claim 14, wherein the method further comprising the step of duplicating the production-process program in an externally connected DRAM/SRAM while upgrading the production-processing program in the DRAM/SRAM.

18. The method as claimed in Claim 17, wherein the upgraded program in the DRAM/SRAM is transferred to the corresponding region of the flash memory.

19. A method for upgrading operation system firmware of a personal computer system, comprising the steps of:

providing an updated firmware in a host computer to provide new capabilities;

5 downloading said updated firmware from said host computer to at least one personal computer system;

establishing a communication connection between said personal computer system and a first memory of said personal computer system;

transferring said updated firmware to said first memory of said personal computer system by way of said communication connection; and,

10 storing said updated firmware in said first memory;

20. The method as claimed in Claim 19, wherein said host computer further performs the step of attaching a storage address information of said first memory to said updated firmware.

21. The method as claimed in Claim 19, further including the step of duplicating the information stored in said first memory in a second memory, coupled to said first memory, so that the duplicated information can be replaced with said updated firmware in said second memory.

22. The apparatus as claimed in Claim 21, wherein said updated firmware in said second memory is transferred back to the corresponding region of said first memory.

23. The method as claimed in Claim 19, wherein said second memory comprises a Dynamic Random Access memory (DRAM) or a Static Random Access memory (SRAM).

24. The method as claimed in Claim 19, wherein said first memory comprises a flash memory, and wherein said communication connection comprises an RS232C line.

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